

REMARKS

Claims 1, 2, 4-13 and 15-23 are currently pending in the above-referenced patent application. Claims 3 and 14 are canceled. Claims 1, 2, 4-7, 11, 13 and 15-18 are amended. New claims 22 and 23 are added. No new matter is introduced herein.

Claim Rejections – 35 U.S.C. § 103(a)

Claims 1-7 and 10 stand rejected under 35 U.S.C. § 103(a) as obvious over Pawate et al. (U.S. Patent No. 5,641,927) and Boss et al. (U.S. Patent No. 5,915,237). Claim 8 stands rejected under 35 U.S.C. § 103(a) as obvious over Pawate, Boss and Kageyama et al. (U.S. Patent No. 5,857,171). Claim 9 stands rejected under 36 U.S.C. § 103(a) as obvious over Pawate, Boss and Kageyama et al. (U.S. Patent No. 5,712,437) (“hereinafter Kageyama II”). Claims 11-18 and 21 stand rejected under 35 U.S.C. § 103(a) as obvious over Pawate, Boss and Taniguchi et al. (U.S. Patent No. 5,712,437). Claim 19 stands rejected under 35 U.S.C. § 103(a) as obvious over Pawate, Boss, Taniguchi and Kageyama. Claim 20 stands

rejected under 35 U.S.C. § 103(a) as obvious over Pawate, Boss, Taniguchi and Kageyama II. The Applicants respectfully disagree.

Pawate discloses a karaoke apparatus. The apparatus measures an average pitch of the user's voice and also measures or reads an average pitch of the background music. Then, the two average pitches are compared to determine a mismatch between the two and, based on the mismatch, changes the key of the background music by some amount. (See Pawate col. 2, line 54 through col. 3, line 8). "The basic idea is to increase or decrease the overall pitch frequency of the music signal to the correct ratio according to the singer's choice of up or down a certain number of semitones in the manual keying case or according to the computed pitch ratio in the autokeying case." (See col. 3, lines 23-28 (emphasis added)).

Boss discloses MIDI speech encoding. Characteristics of the speech (i.e., "how the speech was said") may be determined and reflected in the encoded speech. (See, e.g., Boss col. 5, line 49 through col. 6, line 28).

Neither Pawate nor Boss, nor their combination, discloses or suggests "a mixer configured to replace the at least one speech signal fundamental frequency of the digital speech signal with the note fundamental frequency for each of the plurality of notes of the musical score," as recited in claims 1 and 11 (emphasis

added). Pawate merely discloses increasing or decreasing the average key of a music signal, and fails to disclose replacing at least one speech signal fundamental frequency of a digital speech signal with a note fundamental frequency for each of a plurality of notes of a musical score as recited in claims 1 and 11. Further, Boss discloses that the pitch of a speech signal can be changed, but is silent with respect to replacing at least one speech signal fundamental frequency of a digital speech signal with a note fundamental frequency for each of a plurality of notes of a musical score as recited in claims 1 and 11. New claim 22 discloses a similar feature.

Kageyama, Taniguchi, and Kageyama II, either alone or in combination, fail to make up for the deficiencies of Pawate and Boss, as set forth above.

Based at least on the arguments set forth above, Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejections of claims 1, 2, 4-13 and 15-21 and allowance of claims 1, 2, 4-13 and 15-23.

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Conclusion

If the Examiner believes that any additional minor formal matters need to be addressed in order to place this application in condition for allowance, or that a telephone interview will help to materially advance the prosecution of this application, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

In view of the foregoing amendment and remarks, Applicants respectfully submit that the present application is in condition for allowance and respectfully request a notice to that effect.

Respectfully submitted,

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